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Application No.: 10/672686

NOV 27 2006

Docket No.: MWS-032

REMARKS

Claims 1-26 were presented for examination. Claims 1, 3-5, 7, 13, 16, 24 and 26 have been amended. Claims 2, 6, 14-15, 22-23 and 25 are canceled without prejudice or disclaimer. New claims 27-33 are presented. Claims 1, 3-5, 7-13, 16-21, 24, and 26-33 are currently pending. The following comments address the stated grounds for rejection. Applicant respectfully submits that the pending claims, as identified above, are in condition for allowance.

I. Claim Amendments

Claim 1 is amended so as to include the subject matter of claims 2 and 6. Accordingly, claims 2 and 6 are canceled. Claim 1 is further amended to recite the step of maintaining at least one of the plurality of parameters in a data structure as a parameter set.

Claims 3 and 5 are amended to properly depend on claim 1.

Claim 4 is amended to correct a typographical error.

Claim 7 is amended to more fully claim the present invention.

Claim 13 is amended to incorporate the subject matter of claims 14 and 15. Accordingly, claims 14 and 15 are canceled. Claim 13 is further amended to include the step of converting at least a portion of the system into an intermediate representation.

Claim 16 is amended to properly depend on claim 13.

Claim 24 is amended to incorporate the subject matter of claim 25. Accordingly claim 25 is canceled. Claim 24 is further amended to recite the step of maintaining at least one of the plurality of parameters in a data structure as a parameter set.

Claim 26 is amended to correct a minor informality. More specifically, claim 26 is amended to properly refer to the medium, on which it depends.

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II. Claims 1-26 Stand Rejected Under 35 U.S.C. § 102(e)

Claims 1-26 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2003/0216901 A1 (Shaumont). Claims 1 and 24 are independent claims. Claims 2-12 and 25-26 depend, directly or indirectly, on claims 1 and 24, respectively, and therefore incorporate all of the patentable features of claims 1 and 24. Applicant respectfully traverses the 35 U.S.C. §102(e) rejection of claims 1-26 because Shaumont fails to disclose several of the patentable features of amended independent claims 1, 13 and 24.

A. Claims 2, 4, 6, 14, 15, 22, 23 and 25

Claims 2, 4, 6, 14, 15, 22, 23 and 25 are canceled without prejudice or disclaimer. The rejection is moot as to these claims

B. Claims 1, 3-5, 7- 12

Claim 1, as amended, reads as follows:

"A method for preparing a simulation of a system, comprising:
obtaining instructions representative of compiling a topology of said system and at least one relationship among a plurality of parameters of said system;
maintaining at least one of said plurality of parameters in a data structure as a parameter set;
modifying said at least one of the plurality of parameters to create a modified parameter set; and
executing said instructions by reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the executing occurring absent recompiling said topology."

Shaumont discloses a design apparatus compiled on a computing environment for generating a hardware description of a system using a C++ library, OCAPI. (*Shaumont page 4, ¶ 86*) The OCAPI library enables simulations of signal flow graph (SFG). (*Shaumont page 1, ¶ 0016 and page 24, ¶ 505*) A SFG is data structure that collects all behavior that must be executed during one clock cycle. (*Shaumont page 14, ¶ 0325*) The SFG data structures are interpreted at runtime and SFG includes "a set of expressions using signals" and "a set of inputs and outputs that relate signals to inputs and output queues." (*Shaumont page 1, ¶ 0016; page*

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14, ¶ 0325-0329; and page 24, ¶ 505) Signals are disclosed as "information carriers used in construction of timed description." (*Shaumont* page 36, ¶ 0723) OCAPI also allows a user to generate a dedicated simulator that enables simulation of compiled code instead interpreted code. (*Shaumont* page 1, ¶ 0016; page 3, ¶ 45-50; page 24, ¶ 506; and pages 24-25, ¶ 508-518) *Shaumont* allows a system to be transformed into compilable C++ code. (*Shaumont* page 3, ¶ 45-50) *Shaumont*, however, does not disclose modifying a parameter set after the transformation of the system to compilable C++ code. In contrast, *Shaumont* discloses modifying a class and requiring recompiling of the program that contains the class. (*Shaumont* page 21, ¶ 0442-458) More specifically, *Shaumont* discloses "[y]ou modify the 'add' class to include the following changes" and "[a]fter recompiling and rerunning the OCAPI program . . ." (*Shaumont* page 21, ¶ 0442-458)

The Examiner alleges that *Shaumont*, in paragraphs 45-50, discloses "executing the instruction by reading a data structure containing a plurality of parameters to create an intermediate representation of the system" (Office Action, page 3). Claim 1, as amended, requires "executing said instructions by reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the executing occurring absent recompiling said topology." *Shaumont* does not disclose or suggest features of amended claim 1, such as "*executing said instructions by reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the executing occurring absent recompiling said topology.*" Rather, *Shaumont* discloses modifying a class and then requiring recompiling the program before executing the program. (*Shaumont* page 21, ¶ 0442-458). At no point, however, does *Shaumont* disclose "*executing said instructions by reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the executing occurring absent recompiling said topology.*"

For at least these reasons, Applicant respectfully submits that *Shaumont* does not disclose or suggest the features of claim 1. Withdrawal of the 35 USC §102(e) rejection of claim 1 is respectfully requested. Reconsideration and allowance of claim 1 is further requested.

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Claims 3-5 and 7-12 depend on claim 1 and are allowable for at least the reasons presented above with respect to claim 1.

C. Claims 13 and 16-21

Claim 13, as amended, reads as follows:

“A method for simulating a system, comprising:

obtaining a data structure, editable by a user, that comprises parameters corresponding to said system;

converting at least a portion of said system into an intermediate representation for simulating said portion, wherein the intermediate representation comprises information corresponding to a topology of said system, the intermediate representation further comprising at least one relationship among parameters of said system;

creating an updated data structure by modifying at least one parameter in said data structure that corresponds to said portion of said system;

generating an updated intermediate representation based on said intermediate representation, the updated intermediate representation corresponding to said topology and said updated data structure; and

executing said updated intermediate representation to simulate said system, the executing occurring absent recompiling said intermediate representation.”

The Examiner alleges that Shaumont, in paragraphs 45-50, discloses “executing the simulation instruction by reading a data structure containing a plurality of parameters to create an intermediate representation of the system” (Office Action, page 3). Claim 13, as amended, requires “executing said updated intermediate representation to simulate said system, the executing occurring absent recompiling said intermediate representation,” where the updated intermediate representation is generated in a previous step.

Shaumont fails to disclose or suggest at least the sequence of steps requiring “creating an updated data structure by *modifying at least one parameter in said data structure* that corresponds to said portion of said system; *generating an updated intermediate representation* based on said intermediate representation, the updated intermediate representation *corresponding to said topology and said updated data structure*; and *executing said updated*

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intermediate representation to simulate said system, *the executing occurring absent recompiling said intermediate representation*,” as required by claim 13. Shaumont provides for simulating a system, but does not disclose or suggest the above sequence of steps required by claim 13. (See generally Shaumont page 1, ¶ 0016; page 3, ¶ 45-50; page 24, ¶ 506; and pages 24-25, ¶ 508-51) To simulate a system, Shaumont uses SFG data structures using either compiled or interpreted code. (Shaumont page 1, ¶ 0016; page 3, ¶ 45-50; page 24, ¶ 505-506; and pages 24-25, ¶ 508-518) In addition, Shaumont discloses recompiling the program after modifying a class to enable executing the program while claim 13 provides that “the executing [occurs] absent recompiling said intermediate representation.” (Shaumont page 21, ¶ 0442-458)

For at least these reasons, Applicant respectfully submits that Shaumont does not disclose or suggest the features of claim 13. Withdrawal of the 35 USC §102(e) rejection of claim 13 is respectfully requested. Reconsideration and allowance of claim 13 is further requested.

Claims 16-21 depend on claim 13 and are allowable for at least the reasons presented above with respect to claim 13.

D. Claims 24 and 26

Claim 24, as amended, read as follows:

“A medium comprising electronic device executable steps for a method, said method comprising the steps of:

obtaining instructions representative of compiling a topology of said system and at least one relationship among a plurality of parameters of said system;

maintaining at least one of said plurality of parameters in a data structure as a parameter set;

modifying said at least one of the plurality of parameters in said data structure to create a modified parameter set; and

reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the reading allowing executing said instructions absent recompiling said topology.”

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Shaumont does not disclose or suggest "reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the reading allowing executing said instructions absent recompiling said topology," as required by claim 24. Shaumont discloses modifying a class and then requiring recompiling the program before executing the program. (*Shaumont page 21, ¶ 0442-458*). At no point, however, does Shaumont disclose "reading said data structure containing said modified parameter set to create an intermediate representation representative of said system and said modified parameter set, the reading allowing executing said instructions absent recompiling said topology," as required by claim 24.

For at least these reasons, Applicant respectfully submits that Shaumont does not disclose or suggest the features of claim 24. Withdrawal of the 35 USC §102(e) rejection of claim 24 is respectfully requested. Reconsideration and allowance of claim 24 is further requested.

Claim 26 depends on claim 24 and is allowable for at least the reasons presented above with respect to claim 24.

III. New Claims 27-33

Claims 27-33 have been added to the pending applications to more fully claim the present invention. Claims 27 and 28 are medium claims that depend on claim 24. Claims 27-28 are similar to method claims 3 and 4, respectively. Claims 29-33 have been added to more fully claim a system implementation. More specifically, claims 29-33 are directed to components of the system for simulating an intermediate representation of a model of a system without having to recompile the intermediate representation after a parameter has been modified.

A. New Claims 27-28

Claims 27 and 28 incorporate the patentable features of claim 24, and therefore are patentable over Shaumont for at least the same reasons as claim 24.

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B. New Claims 29-33

New claim 29 reads as follows:

"A computing system comprising:

a data structure containing modifiable parameters corresponding to a model of a system;
an updatable intermediate representation corresponding to a topology of said model and
at least one relationship among said modifiable parameters, the updatable intermediate
representation updating when at least one modifiable parameter is modified in said data
structure; and

a simulator for simulating said model by executing said updatable intermediate
representation without recompiling said updatable intermediate representation after a modifiable
parameter is modified."

Shaumont does not disclose "a simulator for simulating said model by executing said
updatable intermediate representation without recompiling said updatable intermediate
representation after a modifiable parameter is modified," as required by claim 29. Shaumont
provides simulating SFG data structures using either compiled or interpreted code. (*Shaumont*
page 1, ¶ 0016; *page 3*, ¶ 45-50; *page 24*, ¶ 505-506; and *pages 24-25*, ¶ 508-518) In addition,
Shaumont discloses modifying an "add" class and then requiring recompiling the program before
executing the program. (*Shaumont page 21*, ¶ 0442-458). The new claim 29 recites "a
simulator for simulating said model by executing said updatable intermediate representation
without recompiling said updatable intermediate representation after a modifiable parameter is
modified."

For at least these reasons, Applicant respectfully contends that Shaumont does not
disclose all of the patentable features of new claims 27-33. Applicant respectfully requests the
Examiner to consider and place new claims 27-33 in condition for allowance.

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Conclusion

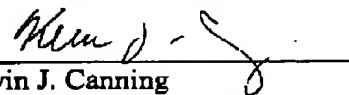
In light of the aforementioned arguments, Applicant submits that Shaumont fails to disclose or suggest the patentable features of the invention, and contends that the claimed invention is novel and non-obvious in view of Shaumont.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-032. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

In view of the above comments, Applicant believes that the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Dated: November 27, 2006

Respectfully submitted,

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